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CONTEMPORARY EAST EUROPEAN PHILOSOPHY

Edward D'Angelo
David H. DeGrood
Dale Riepe
Editors

Vol. VI

CONTEMPORARY EAST EUROPEAN PHILOSOPHY

Edited by

Edward D'Angelo
University of Bridgeport

David H. DeGrood
Editor-in-Chief

Dale Riepe
State University of New York at Buffalo

Contributing Editors

John C. Cullen
New Haven College
Southern Connecticut College

Robert M. Kunz
D'Youville College

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Preface

The contributors to this final volume are P. N. Fedoseyev, the author of numerous books and articles in the field of social philosophy and presently Director of the Institute of Marxism-Leninism in Moscow. Academician Fedoseyev is a Member of the U.S.S.R. Academy of Sciences, of which he has held the post of Vice-President. For many years he was also the Director of the Institute of Philosophy in Moscow. Dr. Hermann Ley (born in 1911) received his Dr. phil. habil. in 1949. During the war he was punished for anti-fascist activity and imprisoned. He was a Professor in Leipzig in 1949, in 1952 in the Dresden Technical University. From 1956 to 1962 Ley was general director of the GDR's television and broadcasting system. He is now Professor of Berlin's Humboldt University. His interests are in dialectical and historical materialism, the history of philosophy, and philosophical questions of natural science. His books include: Zur Geschichte des Materialismus and Geschichte der Aufklärung und des Atheismus. Adam Schaff is Poland's leading philosopher and Professor of Philosophy at the University of Warsaw, as well as a member of the Polish Academy of Sciences. His most recent book is Marxism and the Human Individual (McGraw-Hill, 1970).

The contributors' essays comprise the last three essays of chapter V. Our Epilogue by Debiprasad Chattopadhyaya links the Orient with the Occident in its analysis of the vital union of theory and practice. Chattopadhyaya is India's leading philosopher and the author of many perceptive works, including Lokāyata (1959) and, recently, Indian Atheism: A Marxist Analysis (1969).

With the end of our volume of East European Philosophy, we, the editors, would like to express our gratitude to all the contributors, translators, typists, advisers, librarians, technicians, students, friends, and relatives, who worked nearly to the point of exhaustion to make this study a reality, especially my wife Elaine and our technical director, Joan Brown.

The best closing thought, perhaps, is that of Marx himself:

> . . .The real intellectual wealth of the individual depends entirely on the wealth of his real connections. Only in this way will separate individuals be liberated from the various national and local barriers, be brought into practical connection with the material and intellectual production of the whole world, and be able to enjoy this all-sided production of the whole earth (the creations of man). [The German Ideology (written with his lifelong partner, Friedrich Engels).]

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Hermann Ley

"Ideology and Technics"*

At higher levels of technological development, the task of coordinating various scientific disciplines requires the kind of philosophical generalization in which boundary areas and their application are grouped under broad methods of observation (though not necessarily reflected in every isolated case). In principle, the empirical consequence of this turns out to be an application leading to theoretical results, not only in one's own but in other disciplines. In this finale of the 20th century, the practical application of theoretical knowledge undoubtedly stands as the goal of all types of human activity. It is no longer merely just a subject of philosophical discussion. Thus, Karl Jaspers, looking over the age of technology, formulated it this way:

> The self-destruction of mankind must not be allowed to occur. But perhaps this reflects a kind of human narrow-mindedness. Jesus and many of the ancient Indian philosophers were indifferent to the existence of the world, or else looked upon it as a form of torment, as worthless, or evil. They made their home elsewhere, and so had no need of a world, or of life in the world. But, as our

* From Professor Ley's Technik und Weltanschauung (Leipzig: Urania-Verlag, 1969), pp. 109-121. Translated by John C. Cullen.

> actual daily practice attests, we are not impressed by such a concept of life. And anyone who talks that way today appears only to be deceiving himself.[1]

The technological age is affirmed here. Contrary to some of Jaspers' earlier writings, his remarks contain the suggestion that it is from technology and science that the coming fulfillment of society is to be expected (though not without the intervention of consciousness and politics). The occurrence of self-annihilation is a real possibility, which man must counteract. Consequently, any renunciation of technological civilization as an ingredient of culture is profoundly contrary to our actual daily practice.

In the Grundrisse zur politischen Oekonomie, Marx outlined the relationship between the natural sciences, technology, and individual-social development, foreshadowed in capitalist society and coming to its full realization under socialism. The gradual progress of completely scientific modes of labor in production is integrated in Marx's thought with his reflections upon the connection between components in the organic formation of capital (or of social capital) in the process of increased production, which up until that time had scarcely been considered. If the ratio of human to objectified labor affects the level of productivity and the organic formation of capital, in which technical build-up and normative aspects are combined, then science contributes modifying factors which have an economic effect.

The results of the application of science can be estimated within the bounds of probability. The relation between human and objectified labor is still an unknown quantity in the area of labor productivity; but the

expenditure for brain-power calls for an expanding outlay in the individual and social balance-sheets of plants and industries, states and groups of states.

Marx propounds the notion that in this way there emerges a universal productive power of a social nature, in which immediate labor loses its significance. How such a transformation occurs is only sketched. The growing importance of scientific knowledge and of technology for the total manner of social life is thus underlined. According to Marx:

> To the same extent as labor time (the mere quantum of labor) is established by capital as the only determining element, immediate labor and its quantity disappears as the determining principle of production (the creation of use-value), and is both quantitatively relegated to a trivial percentage of the whole, and qualitatively turned into a subordinate (though clearly indispensable) moment in contrast to universal, scientific labor, i.e. the technological application of the natural sciences on the one hand, the universal labor power resulting from the social articulation of overall production, which appears as the natural yield of social labor (even though a historical product). Thus, capital works towards its own destruction as the dominant form of production.[2]

The reduction of human labor, i.e. immediate labor, to a minimum is an unintended consequence of the application of capital, which has as its intrinsic goal the utilization of as much human labor power as possible in order to bring about a high level of accrued profit. Marx conceives this reduction in immediate labor and in the increase in universal labor as the condition for labor's emancipation. But the application of the results of

universal (i.e. scientific) labor now presupposes the conversion of a larger portion of society's wealth into fixed capital, into the means of production "whose most adequate form is machinery" (Marx).

Just as it is necessary to distinguish between functional and structural models, we must do the same for the concept of the machine. It can be understood simply as a system. However, if we consider the definition of the English cyberneticist, Beer, we should get a different interpretation. The "form of the machine", as Beer considers it, is an organism with its own unity and goal. Consequently, the term "machine" is appropriate to living, social, and formal contexts as well as to the merely mechanical. This concept, in the full range of its applicability, should provide the basis of the search for models, in most cases, where systems of varying grades of complexity are being treated. We might even designate it as a "cybernetic model". Ashby aligns himself closely with Beer in his definition of a machine as a goal-oriented system. In his work Introduction to Cybernetics, mechanical machines are conceived as the form of all instruments of production which fall under the application of the laws of nature.and technological laws of any given degree of complexity, with the possible exception of those computers which are able to modify their own structure. The machine is conceived as a mode of behavior, including, therefore, any particular systems of men and machines, right up to the systems of political economy. It provides the scaffolding upon which the classification of all individual machines is constructed, and in terms of which they can be correlated and understood. Undoubtedly, this way of grasping the concept "machine" makes it feasible to regulate larger social units, since the comprehension of reciprocal

interrelationships has become possible, which, however, need not be identical with the actual social situation. Indeed, if man and the forms of society are subsumed under the term "machine", then "regulation" will imply scarcely anything more than the fact that in large systems as well as in small reciprocal action of varying intensity is simply working itself out.

The planning of a socialist state is something entirely different from mere self-regulation. It makes use of a system of causality in order to achieve the goals set by the party of the working class. To allow concepts such as "man", "society", "class" to be swallowed up in the concept "machine", obscures clear relationships and is a typical characteristic of capitalist ideology.

Since the actual regulation (as well as knowledge required for it) arises from men's activities, and on that account implies a social product, the special conception of a "mechanical" machine and a "human factor", emphasized so much in the period of increasing mass production, is in no sense eliminated. On the contrary, for those men whose activity is concentrated within society, the sphere of universal labor opens up as activity much more broadly ramified than before.

With the possibility of social and technological management, other areas of science become accessible, and furnish a far broader component, one which should not be underestimated. Quite apart from the fact that adapting the techniques of the information revolution raises the level of intelligence of social labor as a whole, the machines which are applied to this goal require the other natural sciences and the most modern technology, through which alone their application can succeed. Their influence "does not rest upon any connection with the labor time

which their production requires, but depends instead upon the overall state of science, and the progress of technology, or on the application of this science to production" (Marx). These last mentioned factors continue to be of considerable importance, especially with the increase in the number of individuals involved, since their activity is social to a significantly greater extent than first assumed.

This social character of scientific labor is determined first by the universal division of labor, but above all by the organized collectivity, the laborers, which demands both an exact coordination of knowledge with the tools of research and the forecasting of those areas upon which the weight of society's resources might be concentrated prudently. Also of relevance to the community is the anticipation of the needs of education, since the most modern areas of science call for the most up-to-date knowledge.

Cooperative labor evolves as a reflection of the total division of labor within society. Given this specialization of disciplines, whenever there is direct contact between the persons who represent them, we find an alienation between fields which are adjacent to one another. Every scientific activity is linked to every other. The unexpectedness of this interrelation makes clear how hidden social structures reveal themselves within the narrow limits of individual labor, thus making us aware that any particular instance of scientific work shares in the general atmosphere existing and develops with other closely related endeavors.

In the course of evolution, there is a subjective process involved in which society expresses the social character of its individual achievement and the individual pre-conditions of its social achievement. First of all, the social and individual powers appear as a function of

fixed capital, of which Marx asserted:

> In fixed capital, the social productive power of labor is taken as an inherent factor of capital: both a "scientific power" as well as the combination of social forces within the process of production; finally, skill itself is transferred from immediate labor to the machine, and translated into lifeless productive power. In circulating capital, on the other hand, the exchange of tasks and of the various branches of labor, their interlocking and systematization, the co-existence of productive labor, all appear as features of capital.[3]

"Scientific power", as the social unity of scientific, societal, and technological power, is allied with the combination of all the other social forces within the productive process. They remain alienated so long as the blurring of the distinction between the two sides in the process of production presents the image of a dead machine, or claims to be an essential feature of capital.

To get a valid conception of the totality of the social relationships and of its integrated, objective elements requires that man's dominance be embodied in a theoretical, technical, and very concrete way. One of the steps in this process is the penetration of basic research into technology, that activating of "scientific power"; as Marx terms it, a process which appears under a variety of forms within the opposing classes of society, but is permanently present.

In the late bourgeois order, this inclusion is immediately expressed as the necessity of utilizing capital, which might be rejected on philosophical grounds, but is seen, nevertheless, as inevitable. It is understandable, therefore, that the left's critique sees

the extension of the technological formation of capital as a burden upon the laboring class, since the workers are treated as objects to be manipulated rather than as subjects.

What "remains" for the natural scientist and the scientific engineer to contribute to this development, as Oettinger expresses it, is creative imagination. In this sense, scientists are just as much affected by "technological unemployment as anyone else". The creative imagination itself is not to be taken out of the process of production: it represents (in a non-alienated sense) the evolution of man himself, who must extend the same attention as he does to the expansion of production on both the ideal and material sides of the social totality. This, after all, increases overall productivity, and thus connects social to individual benefit. It is, therefore, perfectly obvious how mistaken the belief is that in a fully communistic society man would be without cultural demands. The assertion that the higher the stage of the economy the greater the level of cultural barbarism is true of late bourgeois society, and of it alone; in socialism, on the contrary, the economy furthers cultural wealth.

The following reflection of Friedrich and Koziolek is of great significance here:

> The gradual integration of science into the reproductive process of political economy has the progressively more obvious result that even the formation of capital, at least within the fields of the natural and technical sciences, is a gathering of accumulated resources with the same kind of function, ultimately, as basic and circulating capital. All the coordinated resources are accumulated so that the highest

> possible national income (net income included) is achieved. This is of special significance in connection with the structure of accumulation and its inner ratios.[4]

In modern science, the conversion to productive, objectified labor is more easily justified in terms of the reduction of needless expense in production and circulation, rather than as the extension of human mastery over new regions of nature from the structure of elementary particles to the structures of vast systems of production, including even cultural achievement.

How far philosophical thought is involved in the conversion of theoretical knowledge to the uses of applied technology may be illustrated by an example from modern chemistry. In chemistry, there is emerging a notable trend toward the understanding of the materiality of structures right down to the micro-dimensional. At the boundary between physics and chemistry, there is a growing awareness of new substances, which force the modification of conventional technology; and, because of their novel properties, essentailly extend the parameters of the instruments of production. That a philosophical standpoint is essential even for chemical research is clear from investigations into the concept of structure and the question of the reduction of chemistry to physics. The notion of the materiality of structures is gaining in significance. Even in late bourgeois society many theoreticians feel that idealist positions are gravely damaging. The way in which a philosophical position can be important for the investigation of a new dimension is described by the American chemist, Mattson: "The chemist lives in a world of molecules, a world which is just as real to him as that of the transistor or condenser, with which others are concerned." In this

instance, the world of applied technology appears to the chemist as the prototype of those realities whose existence he wishes to account not only for his own discipline, but for other disciplines as well. Thus, to the rest of the technical community, Mattson goes on, the world of molecules is mysterious and unreal. Assertions about the spatial relationships of atoms within molecules would be regarded with bland astonishment or looks of mild disbelief by the same people who would be quite ready to accept electron vacancy conduction, and the zero resistance of super conductors. Mattson now suspects that what is involved in this state of consciousness (found among American engineers in 1965) is the heritage of a whole century in which chemists occupied themselves with the still unfamiliar molecule. The investigation of molecular particles seemed to non-chemists, says Mattson, as "black magic". Thus, the impression arose that structural investigations of this type were completely unimportant for the solution of any real problem. Meanwhile, for decades, in technical chemistry, nuclear physics, molecular biology, genetics (which is of equal importance for agronomy and medicine), complete success was being achieved in working with particles of macro-molecules. Entire branches of industry have arisen in which the reality of these particles has been the presupposition of purposeful technological exploitation.

The real facts of the matter become apparent when the relevant aspects of the material object are considered not only in a theoretical way, but also as objects of the experimental process, as the first step in industrial manufacture. Mattson's statement passes judgment on a generation of scientific-technological development, in which the materiality of tiny particles emerged slowly

and could vindicate its claim to universal validity only very gradually.

It is recognized by scientists in various fields that along with those metaphysical ideas which have hampered the progress of the sciences there are others, such as those of speculative atomism, which have significantly aided it. If the materiality of macroscopic reality is agnostically questioned, it is no wonder that, in their diminished form, structures too complex to be readily comprehensible, and which are accessible only through constant and multiple intermediate operations, should arouse misgivings. Even for insight into the materiality of the micro-dimensional, a cooperative effort in the form of a developed awareness is a necessary condition of philosophical reflection for scientists and technicians.

A similar situation exists in the case of the physiological chemist when certain aspects of the control structures in the cyclical processes of different enzyme formations remain inaccessible to him so long as they are removed from their particular cycle, and are treated within a separate discipline. The physicist Hermann Schmidt has stated, for example, that after 1945 the special field of universal control theory and of control technology was not introduced into all the relevant educational establishments, since it was only of concern to those professors specializing in control quantities and technical systems.

In any statement about the observability of structures, it is to be noted, the basis of the propositions used to justify this assertion often involves a conclusion no less inferential than occurs in those propositions which are derived from logical-axiomatic procedures.

. Now in certain circumstances, the technical application of chemical knowledge involves turning analytically acquired insight into industrially achieved syntheses. If products that are synthetically mnaufactured are identical to the molecular structures that have been analytically established, then we have a technically generated copy of natural structure. So far as the technical process goes, synthetic approximation (if there is a question of the building of molecules not found in nature) is more readily feasible than identical reproduction in a large scale technical process or even in an experimental procedure. Accordingly, the production of synthetic rubber preceded the synthetic manufacture of natural rubber.

Natural rubber has a 1,4-configuration of isopren units. It did not require much time to produce this property, which essentially determines the qualities with the same definiteness as nature in her organic productive process, even though the generation of all the natural properties was envisioned. The propagation of purposive configurations struck the vitalists of the first half of the 20th century as the expression of the activity of a special life-force. Bernhard Bavink, in enumerating the various historical arguments used by vitalism, adduces the optically active stereo-isomers as the "third proof". Its justification rests on the fact that the chemist cannot copy nature in the production of dextro-tartaric acid, dextro-camphor, laevo-nicotine; but, even without intending to, he preserves the desired substratum in laevo- and dextro-tartartic acid as a mixture.[5] In a later edition, Bavink mentions the observation of Pascual Jordan (which he rejects), according to which from the activity of nature directed at an optically active isomer we may draw the conclusion

that life originated in only one place on earth. Accordingly, Jordan accepts the production of a mixture of isomers at that particular instant as natural, i.e. as being purely a matter of chance which isomers should emerge, a point of view not shared by Bavink. Eventurally, Bavink opts for catalysts. If there is any discussion about molecular structures and their optical activity, then there is no doubt that the viewpoint criticized by Mattson has lost favor. The structures of micro- and macro-molecules are obviously real and material, despite all the objections still being offered. Vitalism thus becomes a philosophical tendency which holds a doubtful conclusions supported by the observation of nature and by theoretical inference.

In the eyes of the West German scientist Ziegler (1954) and the Italian Natta (1963), quite apart from the certainty of the materiality of macro-molecular structures, the objection of the vitalists seemed pointless. Karl Ziegler investigated organo-metallic catalysts in terms of their effectiveness for technical purposes. By adding zirconium and titanium, he found a catalyst which was capable of giving polyethylene at low pressure a more linear form than had been previously attainable. Natta found that the new catalyst was also able to polymerize other unsaturated monomers. He concentrated on propyl, which heretofore had not been thought capable of polymerization at high molecular levels. X-ray research indicated a high yield of organic crystallite. The estimate of inter-atomic distances suggested a stereo-isomeric form. The new catalyst turned out to be multi-specific. Its effect is the purposive production of macro-molecules of isotactic form--if all CH_3-groups in the relevant

stereo-isomers are present on one side; and those of syndiotactic form--if the CH_3-groups are reciprocally opposed to one another.

Since 1963 we can speak of a revolution in the technical manufacture of stereo-isomers. Polymer chains have been producible in a controlled way since that time. Soon after, the rubber industry in the USA began to make industrial use of the correlations discovered in West Germany and Italy. Isoprene was thus transformed into a cis-1,4 polymer. The same success was found in using lithium catalysts. According to his report, Ziegler arrived at his results because of an accidental contamination with zirconium. After the beginning of its technical exploitation by the rubber industry, the mechanism of the organo-metallic catalyst and the process initiated with lithium could be more accurately explained. The knowledge of the two distinct mechanisms brings atomic weight and chain structure under control. Through analogous technical procedures, it permits a more rational mode of producing elastomers with the desired properties than was previously possible. The mechanism of organo-metallic catalysts works with reactive terminal groups. They dissolve the developed chains of metallic atom, and form a metallic hydride that acts as a trigger for another chain. Through these new bits of knowledge about the working of catalysts, fresh ideas arose concerning the controlled production of stereo-isomers, into which re-active terminal groups might be built. They appear to be adaptable for use as solid rocket fuel.

We might now remark upon the philosophical and practical results of our study. We have succeeded now, up to a certain level of approximation, and by the use of a trial and error method, in copying (by technical

amd scientific means) features of nature which previously had been described as in principle inaccessible to human investigation. Since this achievement was earlier ruled out by idealist decree, we might, without forcing the point, describe the method which proved so successful as the expression of a fundamentally scientific-materialist attitude, which can lead to one that is basically dialectical-materialist. It does not in any sense require conscious formulation. If scientific work is pursued with the goal of technical application, then, with the help of theory, experiment, and hypothetical reflection, the criterion of Praxis may be able to assure the desired effect. The criterion of Praxis extends, therefore, to the technical procedure, and also to a segment of theoretically grasped facts which insure mastery of the process, even though the mechanisms in action are still unknown.

A structural level is to be grasped when it is available to Praxis. Understanding is not explicitly required in every instance for the remaining gaps in knowledge to become apparent. For a philosophical viewpoint which conceives knowledge as an unending process, but grants objectivity to partial results, the acceptance of levels of reality which are not as yet fully determined is somewhat more natural than for a philosophical conception which sees the continuity of the knowing process as an ideal unity. If it is known that mechanisms are to be employed which previously were unavailable, then the clarification of their structure involves a broadening of our mental horizons, which not only extends our understanding, but also increases the goal-directed mastery of the process.

From the consideration of philosophical materialism it can be inferred that a general and basic philosophical

understanding among chemists, mechanical engineers, and control technicians of the workings of broad chemical processes, will offer advantages to the cooperative effort which leads the way to their industrial embodiment.[6]

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Notes

1. Karl Jaspers, Wohin treibt die Bundesrepublik?, Munich, 1966, p. 222.
2. Marx, Grundrisse der Kritik der Politischen Oekonomie, Berlin, 1953, p. 587 f.
3. Ibid., p. 603.
4. G. Friedrich & H. Koziolek, Einführung in die Lehre von der sozialistischen Wirtschaftsführung, Berlin, 1967, p. 71ff.
5. Cf. B. Bavink, Ergebnisse und Probleme der Naturwissenschaften, Leipzig, 1944, 8th edition, p. 349.
6. This article slightly abridged for this volume.

Adam Schaff

"Marxism and Revisionism"*

Questions such as, "What is meant by being a Marxist?", or its complement, "What is meant by being a revisionist?", are not new. They have re-surfaced in every new period and whenever the word "Marxist" was not given the crude, oversimplified interpretation of an adherent to certain "orthodox" doctrines, in the sense of absolute fidelity to the teachings of the masters. Anyone who rejects such a dogmatic, and, in practice, useless, conception of being a Marxist, who regards Marxism as a science and therefore as an open system which must be augmented and modified along with the development of reality and its apprehension by mankind, must also encounter the problem of determining what are or are not Marxist views. When new issues arise, it is no use going back to the classic writings, since their authors did not and could not--since they were scholars, not prophets--foresee new problems and situations; thus the question, "What does it mean to be a Marxist?", and its counterpart, "What is meant by revisionism?", always reassert themselves.

In our time, these questions need asking not only in view of the appearance of new problems but also because of the great confusion caused by the propaganda warfare waged by various groups within the international movement which invokes Marxism as its theory and ideology; as a result, concepts such as "Marxist" and

 From the forthcoming book, In the Name of Life: Essays in Honor of Erich Fromm, edited by Bernard Landis and Edward S. Tauber. Reprinted by permission of Holt, Rinehart and Winston, Inc.

"revisionist" are robbed of their scientific meanings and serve, instead, as emotive descriptions for immediate targets in the political struggle. Naturally, this does not help to clarify ideas which are complex and vague enough as it is. Still, being a Marxist does have a rational meaning which is worth tracking down in view of the gravity of the arguments taking place.

When we say that someone is a Marxist, we mean that he has opted for a certain body of ideas known as "Marxism." This emphasis on the subjective aspect of being a Marxist--stressing the idea that to be a Marxist a man must want to be one--is, I believe, extremely important. Simply to proclaim certain propositions which accord with, or are even historically derived from, Marxism does not make someone a Marxist. After all, he may disagree with other parts of the doctrine or even (a very common occurrence nowadays, especially among sociologists and historians) be unaware that his views derive from Marx, so thoroughly and organically have his theories been absorbed by modern science. In other words, no one can be counted a Marxist against his will, since this term implies a deliberate act of commitment to Marxism as an intellectual movement. Wanting to be a Marxist, i.e. declaring one's allegiance, is a necessary condition for being counted as a Marxist. It is equally certain, however, that this is not a sufficient condition. There is an obvious distinction between subjectively wanting to be something and objectively being it.

To be a Marxist in the field of theory, it is necessary to have a certain skill, and this skill must be genetically connected with the views of Marx and his successors, since these constitute the whole known as "Marxism." But what kind of skill is needed, and

how is it to be exercised to validate the name "Marxist"? The simplest answer would seem to be: as thorough a knowledge as possible of the writings of Marx, Engels, and the other classics, and a faithful cultivation and continuation of their views. But such a dogmatic interpretation of Marxism as a kind of creed must itself be criticized. The classics of Marxism insisted that Marxism was not a system in the sense of an enclosed doctrine, but only a guide to action. Marx himself made Cartesian skepticism a basic element of his scientific outlook. Asked by his daughters for his favorite motto, he replied, de omnibus dubitandum est. Accordingly, for a Marxist there can be no hesitation in choosing between scientific method and pietism.

To be a Marxist, therefore, one must know the views of Marx, Engels, and other classics, and (realizing that the postulate of perfect knowledge is always only a model) uphold them unless they have been invalidated or modified by the development of society and science. Given this definition, anyone who claims to be a Marxist not only need not dogmatically believe in whatever is written in the classics of Marxism but should check their views, and, if necessary, modify or even reject them as obsolete. This is an extremely important point to be borne in mind before classifying someone as either a Marxist or a revisionist.

The designation of Marxist can legitimately be claimed by someone who has declared his allegiance to Marxism, has a sufficient knowledge of its principles, and stands by them unless they have been overtaken by the historical development of social life and science. But from here on, the matter is neither as simple nor as straight-forward as it might seem.

Who should decide whether a Marxist proposition needs

to be modified or even discarded? How far can one go in this direction before claims of adherence to Marxism cease to make sense? Or, to put it another way, are there some basic propositions which may not be rejected without forfeiting one's right to call himself a Marxist? If so, what are they? Is the problem of allegiance to Marxism a purely theoretical question or a practical and political one as well? Or, to put it another way, can the term "Marxist" be applied to someone who adopts the Marxist position in theory without acting on it in practice, or only to someone whose theoretical views are consistent with his practical activity in the political sphere? How are we to assess and describe those who agree with Marxist theory, but disagree with the policies of the communist movement in general, or of some communist party in particular?

Questions like these, and there are others, need a reply before any general answer will be found to be of value.

But we must come to grips with the question of revisionism, which, though a correlate of the positive definition of "Marxist," needs to be broached explicitly if we are to avoid difficulties later.

First of all, we only can describe a revisionist as one who is a Marxist insofar as he is familiar with the principles of Marxism and has avowed allegiance to it. Anyone who simply rejects these principles because he disagrees with them is an <u>opponent</u> of Marxism, not a revisionist. Nor is someone a revisionist who, while recognizing the value of a certain tenet, proposes some revision or amendment, since in its original form he believes it is, or has become historically, inconsistent with the empirical facts. By definition, then, a revisionist is (only and always) a Marxist

who advocates certain appropriately qualified alterations in Marxist theory. To use this term, as is sometimes done, to denote an opponent of Marxism who proposes a partial or complete rejection of this theory is imprecise and illegitimate.

But what kind of changes in Marxist theory have to be proposed in order to call someone a revisionist, seeing that Marxism is an open system, meaning that it can be reinforced not only with new propositions but also by changing or even eliminating those that have been made obsolete by the development of science and social reality? Since the classics of Marxism insisted on just such a critical and open-minded approach, when and under what circumstances can this procedure be found improper and so warrant the pejorative description of "revisionism"?

In the light of our previous remarks, the answer to this question should not be difficult: the only legitimate change is one justified by the incompatibility of the theory with reality; an illegitimate change ("revisionist" in the bad sense) is one that is not justified by the development of our knowledge of the world or by the altered circumstances of the social reality we investigate.

This general formula seems simple, but a moment's reflection requires us to put forward at least three additional questions which complicate the picture.

Is every change of this kind liable to the charge of "revisionism"?

What is to be adopted as the criterion of compatibility when someone proposes to make changes, not in theoretical propositions that describe reality and state its laws, but in ideological norms and postulates?

What is to be done if opinions differ about the

adequacy of the theory and the need for change? Whose opinion should prevail? What should the standards of judgment be: quantitative or qualitative?

My answer to the first question is firmly in the negative: not every change in Marxist theory, even if it is shown beyond all doubt not to be justified on the grounds of incompatibility with reality, is to be condemned as "revisionism." There must be no blurring of the difference between error--to which a Marxist is also entitled--and "revisionism", since there can be no search for truth without the risk of error; as we know from historical practice, the fear of being called a revisionist can be a deterrent to creative inquiry. In any case, it would be ludicrous in assessing the Marxism of a thinker not to be guided by the entirety of his views when they are beyond reproach from this point of view but in error, perhaps, in a theoretically insignificant way. Thus, it is certainly not any change in Marxist theory mistakenly proposed by a person that entitles us to criticize him as a revisionist; this would depend instead on his system of views regarding some major part of Marxism. But what are these major parts of Marxism? Here is a problem which requires an answer to our previous question about the basic propositions of Marxism, and the limits of the changes that can be made without forfeiting the right to be called a Marxist.

There is no clear-cut answer to any of these questions. This enormously complicates the issue of whether it is legitimate to describe someone's views as "orthodox" Marxist or "revisionist." A glance at the history of the problem indicates that, in the past, the term "revisionist" was used sparingly, and then only when theoretical divergence was accompanied by departures in political practice from the principles of the revolutionary

struggle for power or its retention. For example, when Lenin attacked Plekhanov's hieroglyph theory, he did not describe it as revisionism, though he regarded it as mistaken and inconsistent with Marxism. The prodigal use of "revisionism" as a term of abuse, leading to its increasing devaluation, is a product of later times.

Again, as to whether every change in Marxist theory can be assessed as "revisionism," one must also bear in mind the individual frame of reference. After all, "revisionism" designates the action of revising--in the sense of changing--certain views and its consequences. But since Marxism is an intellectual system which has evolved historically and to which various people have contributed, one must always be aware of the time and specific stage of development of the theory when talking of its revision.

Which of the views of Marx and Engels are to be . . . respected in the sense of being obligated to uphold them on pain of the charge of revisionism? From what period? Should it always be assumed that the later views are more correct? What other thinkers, apart from Lenin, have the same status? History as well as the ideological disputes now in progress in the working class movement indicate that these are not minor questions and that they complicate the task of someone wishing to reach a rational judgment about whether to classify certain views as revisionist, rather than simply use the word "revisionist" as an insult.

The matter becomes even more complicated when we come to the second question: What is to be done if there are differences of opinion regarding the validity of ideological norms and postulates? Despite the difficulties we have mentioned, it is still clear what is at issue when we accept the compatibility of Marxist

theory to reality as the criterion of admissible changes. On the other hand, when we construct an ideology, i.e. a system of views and attitudes, which on the basis of a certain system of values, guides human behavior towards a recognized goal of social development; we are dealing not only with descriptions but with assessments and standards of conduct which are not logically deducible from descriptive propositions. Even if we agree that they are genetically deducible (I myself would support this view), we must admit that there is no obvious inference from predicative statements.

From a certain description of reality, from its apprehension, there arises through a complex social process certain assessments--that is, systems of values recognized by certain groups--and, in consequence, accepted norms of conduct. But if I conclude that, in certain conditions, they need to be modified, my argument with someone who opposes this suggestion cannot be decided by a simple appeal to reality, but only by reference to reality's interpretation; and this implies a subjective factor. The criterion of the compatibility of the theory with reality cannot be applied in this case, at any rate not in its simple and direct sense. Thus if I say, for instance, that in the altered circumstances of our time the development of socialism calls for teaching people to think for themselves, and this entails a radical extension of freedom of thought and speech, and if someone disagrees with this assertion, then to label either of the parties to this dispute as "revisionist" is meaningless--unless one follows the dogmatic interpretation of this term which involves comparing whatever is said with the statement of some recognized authority.

Appealing to reality is of no use in this case. In a normative statement what is involved is a certain

recommendation, in other words something that is not embodied in any description of reality.

The third question is, in my view, the most fruitful from the pragmatic point of view, since it reveals the shakiness of any answer. As we know, a general consensus is not to be recommended as a criterion of truth, still less the consensus of one or another group. The decision of an authority is even less acceptable. Thus, when there are no clear objective criteria and there is also controversy among the people involved, we must reconcile ourselves to admitting humbly that the situation is controversial and the problem cannot be settled unambiguously.

Our digression over the concept of "revisionism" will have injected us with a sizable dose of skepticism and wariness in approaching the problems that concern us. Let us now, with this lesson in mind, revert to our difficulties with the definition of "Marxist."

We have seen that the only concept of Marxism justified by its own principles is one of an open theory. As we have said, its propositions can be supplemented and altered if the need arises. But who is to decide that one has actually arisen?

Naturally, <u>anyone</u> may who has come up against this question in the course of inquiry. A variety of reservations can and should be added: he should be as sure as possible of the rightness of his position, observe maximum caution in the changes he makes, carefully examine the differing views of those who are qualified and experienced, etc. But the final result cannot be altered: the decision rests with anyone who has seriously pondered some issue--and this right belongs to everyone. To think otherwise is a sad remnant of the personality cult, in its literal sense.

All this might seem commonplace were it not for a certain "but" which arises when we remember the twofold function of Marxism: scientific cognition and that of a movement fighting for specific social goals. Obviously, these functions are organically related and complementary, but they nevertheless form two aspects of a complex phenomenon, and to appreciate this difference is a help in understanding our problem.

From the point of view of its cognitive function, Marxism cannot and should not be afraid of any changes proposed within its framework: if they prove mistaken, they will be criticized and rejected. This is a normal and accepted procedure in all fields of science, and, as a science, Marxism is not and should not be an exception.

But the position changes when we consider the function of Marxism as an ideology welding together a movement fighting for certain social goals. Durkheim once called this function of ideology a religious function; he had in mind the factor of faith, in the sense of a profound and unquestioned belief in the justness of something, as the cement of social movements. This factor undoubtedly also appears in the social movement based on Marxism, often determining the strength of people's convictions and their readiness to make sacrifices for the ends specified by this movement.

Now in this field, a change of principles, opinions, recognized goals, and their attendant norms, is not a neutral matter. On the contrary, their relative invariability, and their simplicity as well, guarantee (at least in certain circumstances) the maintenance of the emotional tension on which faith and militancy depend, especially where mass movements are concerned. Hence the pragmatic politician will be extremely cautious

in accepting such changes, and his disposition towards them, as is only psychologically natural, will be suspicious: they complicate the situation and may weaken the militancy of the masses. This consideration should not be minimized, for it is extremely important. And it is here that the confusion begins: if experimentation and innovation are extremely useful and even desirable in the field of theory where the dangers are negligible, in the sphere of practical politics, the matter is far more involved For in view of the possible risks, even the most fervent advocate of innovation will tread warily if he has a minimum of political experience and a sense of responsibility for action undertaken in the social field.

These two functions (the scientific and the ideological-political) are not only organically related but are also linked by feedback; i.e. they control and stimulate each other in their historical development. This gives additional weight to the observation that, though they form a single whole, they display, within certain limits, varying and even contradictory tendencies. Here is a dialectic straight out of the textbooks. But unfortunately, it tends to be overlooked, which is all the more dangerous, since both functions of Marxism, because of their relative independence, have in social life relatively different and separate groups of representatives: theorists and scientists, and practical ideologists and politicians.

Of course, the boundaries between them are not, and cannot be, clear-cut; obviously, there may be cases of an intimate union--the most favorable arrangement, but, unfortunately, such examples are increasingly rare and attesting to, in this case, an unwelcome tendency towards a "division of labor" and specialization. Such a

division becomes dangerous, both ideologically and in practice, not only when the "incumbents" of these different functions of Marxist ideology cease to perceive and understand their unity, but also when they overlook their differences. One observes Marxist intellectuals who, while they are right in calling for freedom of discussion and creation, overlook the social implications of their work, often displaying a quite childish lack of political judgment and responsibility, which, naturally, does not help to raise their standing with the politicians. On the other hand, there are Marxist politicians who, preoccupied with the social consequence of such changes, forget about the unity of theory and practice and of their responsibility for the development of theory.

Even though the stability of the ideological factors that bind a group might seem to strengthen its emotional capacity for struggle and sacrifice, in actual fact such protection of unity at any cost, to the point of sectarianism and dogmatism, leads in the long run to a profound crisis of ideological disillusionment; it causes a correspondingly more serious disintegration of the group, a process which may often be incurable and irreversible. Those men are poor politicians indeed who, while loudly professing to be defending unity, are most radically and dangerously working for its disintegration by failing to appreciate the importance of the advancement of theory, both for progress and the consolidation of the influence of their ideology.

But, again, who is authorized to decide that changes and modifications need to be made in Marxist theory in order to adapt it better to reality? With the reservations mentioned above, let us repeat the answer already given: <u>anyone</u> who reflects on these

issues. Whether or not these proposed changes prove tenable is another matter; it depends on how well substantiated the changes are and on the results of their social appraisal. But one thing is certain: there are no privileges in these matters; no individuals, groups, or institutions enjoy a special status. And there is no other way of assessing the merits of these changes except by the force of their arguments based both on the theoretical premises of Marxism and on an analysis of their social practice.

How far can these changes be carried before calling oneself a Marxist ceases to make sense? In answering this question we must distinguish at least three different forms it can take.

First and foremost: what questions are legitimate with regard to Marxism? In the light of its own principles, every question is legitimate; and equally legitimate, or even necessary is every change in its propositions if they collide with the properly researched evidence of reality. Marxism is a science, not a religious creed, and so is subject to the general laws of science. But, if in making these changes we reach a point where Marxism as a system cease to exist, it would make no sense to call oneself a Marxist. This raises the question of a body of views whose survival is essential if we are to talk seriously of Marxism.

Marxism, as a theory, is an historically shaped system of views, composed primarily of its philosophy, sociology, political economy, political theory, and specific research method. It is a system in the strict sense of the word; when the classics of Marxism said that their views do not amount to a system, they had in mind the special meaning of this word developed by metaphysics. In other words, Marxism is a totality of elements

(in this case, entire theories), in which to change one is to change the others. This is why rejection of any of the basic components of Marxism is the same as rejecting Marxism as a whole. Consequently, it is not possible to be a "partial" Marxist, acknowledging only certain of its areas or aspects; if one does not accept the system of Marxist thought, one does not accept Marxism and is not a Marxist. Here, then, is the first distinct boundary which may not be crossed, if one wants to keep the right to be called a Marxist.

In practice however, in what might be called the day-to-day routine of science, research is specialized and one is usually a philosopher, economist, sociologist, psychologist, psychiatrist, etc., who is not concerned with the other fields, often remote from his own interests, which form part of the Marxist system. Take a social scientist who in his sphere accepts the research method and basic theoretical principles of Marxism, draws his inspiration from it and is avowedly one of its supporters; is he a Marxist or not? Obviously this is a rhetorical question: of course, he is. But in a slightly different sense than if he simply displays a lack of interest in the fields of Marxism outside his immediate province. The matter becomes more complicated if he actually rejects Marxism in these other areas. In this case, we are dealing not with a Marxist but with a researcher who employs the methodological and theoretical guidelines of Marxism in a certain sphere. These are quite different situations, as are the theoretical and practical conclusions to be drawn from them.

But this being so, where is the boundary whose crossing implies the surrender of the right to be called a Marxist even in this second, narrower sense?

Each component of the Marxist system is a relatively independent theory of philosophy, sociology, economics, etc. Each of these theories has the shape of a more or less rigorously structured intellectual system. As in every such system, the various propositions can be estimated according to the degree of their importance to the structure of the theory. On the other hand, as has been said, Marxism, both in the sense of the entire system and in that of its component elements, is an "open" system; since it is not a dogmatism, it develops, absorbs new elements, alters old ones, etc. In principle, there is nothing to stop such changes being made, if they are justified by the development of man's knowledge of social and physical reality. However, there are limits to these changes; if these limits are crossed, it would no longer make sense to talk of Marxism as a specific theoretical system; the system would cease to exist, and the author of these changes could not claim to be a Marxist. The general rule would be that these limits are determined by the basic theses of the theory. It is not possible to prescribe in detail which propositions play this fundamental role, but the idea can be illustrated with examples, and in such a situation this is sufficient.

For instance, rejection of materialism as a view of the world in favor of spiritualism means renunciation of Marxism as an intellectual system and thereby takes away the right to call oneself a Marxist. This is clearly not a question of degree. The point is not whether we can put various additions into the principles of materialism, but whether we accept or reject its basic propositions in the fields of epistemology (the objectivity of existence) and ontology (the materiality of existence).

The same analysis applies to historical materialism, the Marxian analysis of capitalism, and its socio-political model of the socialist society.

One can and should change and modify the propositions of the classics in accordance with the needs of the developing social and scientific reality. It was Engels himself who said, e.g., that materialism must change its form together with every great scientific discovery which revolutionizes our view of the world; a fortiori this applies to social problems. In other words, the key problems in Marxism are not taboo for the researcher. It is one thing to make changes and modifications, however far-reaching, in theoretical propositions,* and another entirely to renounce them, e.g. by replacing materialism with spiritualism, the dialectic with crude evolutionism, the materialist concept of history with the idealistic concept of great individuals as the sole and autonomous makers of history, etc. In the former case, we are working "inside" the propositions of Marxism, whether the changes are justified or not is another matter; in the latter, "outside" them, in the sense of simply dismissing them as wrong, thereby rejecting Marxism itself.

By way of precaution let me end with one reservation:

* For instance, by saying that the theory of reflection in one of the forms in which it has been stated is not tenable in the light of modern knowledge about the role of the subjective factor, above all, of the role of language in cognition; or by showing that the theory of the three levels of cognition is mistaken for similar reasons; or by rejecting the Hegel-Engels' concept of movement as an objective contradiction; or by discarding the Morgan-Engels' concept of prehistory on the evidence of modern anthropology.

in all that has been said here we have ignored the problem of truth and falsehood. Is there a corpus of propositions whose negation would: (a) mean the end of Marxism as a theoretical system, even though certain true propositions might survive; and (b) would thus deprive anyone who discarded them of the right to call himself a Marxist? The answer to this question is a positive one, involving a variety of consequences for the meaning of the terms "Marxist" and "revisionist."

Finally the last question, can the designation "Marxist" be claimed only by someone who links theory with practice, drawing revolutionary practical conclusions from the Marxist theory, or also by someone who upholds Marxism in theory but is either not politically active; or, if active, draws from Marxist theory different conclusions from those embraced by the communist movement.

This is primarily a question of definition. We can assume ex definitione that we will only qualify as a Marxist a revolutionary who is active and bases his political practice on Marxist theory. But the question then arises: what are we to call those supporters of Marx who do not draw such practical conclusions from their convictions? For instance, a social scientist (I have met many such academics in the United States) who declares himself a Marxist and does indeed follow the Marxist method in his research, but is not and does not intend to be, for one reason or another, politically active. So radical an extension of definitional requirements seems to be not only incompatible with the conventions of language, but would also introduce an unnecessary confusion of concepts. It would be better to leave the term "Marxist" as a description of certain beliefs and theoretical attitudes, and reserve for practical attitudes

some other name, such as "communist" or the like.

The matter is by no means as simple as it once seemed; it is also true that the same theoretical premises may not always lead to only one possible directive for practical action. Today, we can see clearly that this is not the case, that there are various possibilities, and that proceeding from a common theoretical base we can arrive at various practical interpretations and conclusions, which does not give us the right to dismiss as non-Marxist people who think differently from us.

What conclusions can be drawn from these remarks? Though they may seem vague and modest, they are nevertheless important for the purpose we set ourselves. For we have found that, although the issues are enormously complicated and require much discussion, we can with a fair degree of accuracy define what is meant by "being a Marxist" and therefore what we are to understand by revisionism. But the most important result is the conviction that a researcher who professes Marxism and draws creative inspiration from it is by no means condemned to sterile dogmatism and exegesis of the established texts. On the contrary, the more creative he is the more "orthodox" he is in his Marxism. In other words, he is completely free to bring into the perspective of Marxist theory new lines of inquiry and the new horizons opened up by the development of science; he is entitled to make changes in the traditional form of the theory where dictated by these advances; and in doing so he does not cease to be a Marxist, as long as he stops short of changes so fundamental that they destroy the system of Marxist theory; and finally, in creatively developing Marxism he cannot be accused of "revisionism," though he might well level this charge

at his opponents who, confusing fidelity to Marxism with dogmatism, betray one of the basic principles of Marxism by not treating its propositions as a science, i.e., as an open system.*

WARSAW

* Professor Schaff's essay has been edited and abridged for inclusion in our volume--D.D.G.

P. N. Fedoseyev

"Lenin and the Methodology of Modern Science"*

In our era of scientific and technological revolution, the hallmarks of which are the growing role of natural science in industry, the interlocking of the different branches of science, and a fantastic accumulation of scientific information, the need for philosophical generalization and interpretation of the new scientific findings is felt, and this, in turn, begets a greater interest in problems of methodology. The basic principles for resolving these problems can be found in the ideological legacy bequeathed to us by Lenin.

Far from detracting from the significance of Lenin's fundamental methodological views, the rapid advance of scientific knowledge in recent years has made them more timely than ever today, in the centenary of his birth (1970). This is due primarily to the farsightedness with which the great thinker and dialectician fathomed the essence of the far-reaching revolutionary changes in modern science. His basic works, Materialism and Empirio-Criticism and Philosophical Notebooks, contain not only a philosophical generalization of an entire era in the development of science but also exceptionally important methodological insights for the future. For instance, what Lenin said about the infinity of the electron is increasingly recognized as being of fundamental importance for the methodology of modern theoretical physics.

* Article abridged for inclusion in this volume.

The present revolution in the natural sciences is a continuation of the revolution which began in the early years of this century. The results of the initial stage were summed up by Lenin in generalizations that still stand as guideposts in methodology. His theses concerning the indispensability of dialectics in physics, the infinity of matter, the relationship between absolute and relative truth, etc., retain their validity to this day.* Moreover, what he saw as applicable to physics is being extended to all areas of knowledge.

In order to enhance the efficacy of the union of natural science and philosophy, it is imperative to see the development of dialectical materialism in the correct light, to appreciate the fundamental point stressed by Lenin, that Marxist philosophy can be truly advanced only on the bedrock principles of materialism and dialectics, only in struggle against all forms of bourgeois ideology. In this connection, it is sometimes asked whether taking a creative approach to philosophy does not in the final analysis imply replacing dialectical materialism with some other, old or new, "ism". The answer is no. Experience leaves no doubt on this score. Scientific development of philosophy in this twentieth century presupposes further development of dialectical materialism.

Fundamentally alien to science are the attempts made to refute such cornerstones of materialism as the primacy of matter and the theory of reflection. The categories

* Lenin underscored time and again that dogmatism and stagnation in thinking lead to a narrow-minded sectarianism, to a vulgarized substitution of yesterday's slogans for scientific analysis of the realities of today, to a loss of touch with real life, and to adventurism in theory and practice.

and concepts elaborated by modern natural science cannot be counterposed to the basic principles and categories of dialectical materialism. Now as in the past, reactionary philosophy aims at revising the very concept of matter; it denies its objective nature and regards the widely used and highly fruitful method of modelling as the antipode of the theory of reflection. At times, information and communication are opposed to the dialectical concepts of interconnection and interaction, and the material object is replaced by the concept of structure.

The Marxist concept of absolute and relative truth is, of course, fully applicable also to our very own philosophy. For as Engels pointed out, the more complex the area of knowledge and the more removed we are from the material objects of study, the fewer absolute truths we perceive. But it is also unquestionable that, in the course of the centuries, materialist philosophy has evolved principles offering a solid groundwork for continued progress. We would be diehard dogmatists if we did not see the relativity of many of the concrete propositions of our own philosophy and the need to re-examine, develop, or clarify them. On the other hand however, we would fall prey to relativism, and in the final analysis to idealism, were we to assume that the development of our philosophy presupposes negating its fundamental principles, for there are principles that cannot be shaken. We are duty-bound to stand by them in the interests of promoting scientific knowledge and in the interests of truth.

There is the well-known precept advanced by Engels (and elucidated and developed by Lenin) that materialism must assume a new form (or modify its old form) with each major discovery in natural science, not to speak

of radical changes in the life of society. But neither Engels nor Lenin meant by this run-of-the-mill discoveries of the kind made every year; the reference is to those ushering in a new era in science.

It would be a mistake to say that, inasmuch as Marx in his "Theses on Feuerbach" criticized the old materialism primarily because of its contemplative nature and its underestimation of the activity of the subject, and since in the twentieth century the scale and role of this activity is changing the world have grown immeasurably; the world should not be seen as an objective reality but interpreted as activity. Such an approach would definitely not advance scientific philosophy. In substantiating the materialist conception, not only of nature but of society, Marx showed that social life is essentially practical endeavor, and he regarded practice as the basis of history and human knowledge, as well as the criterion of truth. In the early years of this century, Lenin developed these points in his Materialism and Empirio-Criticism and Philosophical Notebooks. Continuing along these Marxist-Leninist lines, we, the materialists of the second half of the twentieth century, declare: However great the potential of human activity to transform the environment, the world can never be reduced to this activity alone. Human endeavor is a matter of man's active attitude to his environment; the effectiveness of his activity is closely linked with his ability to reflect in a profound way the objective reality. Ignoring this fundamental precept of materialism inevitably leads to voluntarism and adventurism. Activity that does not take account of the objective laws of being, and is not based on profound scientific reflection of these laws in the consciousness of its agents, is likely to degenerate into subjectivism and arbitrariness, discrediting the

entire cause of progress.

Science is effective only insofar as it faithfully reflects both the current state and the trends of development of objective reality. The well-known passage from Philosophical Notebooks, "Man's consciousness not only reflects the objective world, but creates it" (Collected Works, vol. 38, Moscow, 1961, p. 212), is often cited without due contextual attention to the fact that here Lenin merely sums up Hegel's views on the transition of ideas and concepts into practical action. The materialist interpretation of this thesis is, as Lenin put it, "the world does not satisfy man and man decides to change it by his activity" (Ibid., p. 213). We would be ignoring Lenin's counsel concerning the need to take a materialist approach to Hegel were we to confuse Hegel's idealistic views with their materialist interpretation.

A number of misconceptions have arisen as regards the interrelation of materialism and humanism. They cannot be set one against the other or the latter substituted for the former. It would be incorrect to say that an outlook of naturalistic humanism, and not materialism, corresponds to modern natural science. The fact is that genuine humanism can only be based on genuine materialism. Any other approach would only signify a retreat from scientific, dialectical materialism to pre-scientific, anthropological materialism. Criticizing Feuerbach and, to a certain extent, Chernyshevsky for their anthropologism,* Lenin showed that the latter was but a faint outline of materialism. The genuinely scientific way to strengthen the link between subject and object in modern science consists, not in a return to

* Their abstract "science" of man.

nineteenth century materialism, but in developing the science of man (the subject) in the light of twentieth century materialism.

The ancient philosophers regarded form as the active, creative aspect, and matter as the passive. (This is especially the case with Aristotle.) When we come to the age of the mechanistic world-outlook, form came to be interpreted as the integument, the configuration of the material object, with no connection with its essence and structure. Dialectical materialism posed the problem of form and content in an entirely different way, making the concept of the material object far more profound, more organic, with form regarded not as the external integument but as the internal structure of the content. Marx proceeded from the economic structure of society in Capital; it was on this basis that Marxism examined such phenomena as the social and class structure of society. And in our day, too, it is impossible to get to the root of social developments without this approach to social, class, and economic structure. When bourgeois sociologists take the credit for the "discovery" of structure, they are at odds with the real logic of the development of knowledge.

In the sphere of methodological analysis of the concepts of information and communication associated with cybernetics, the task is to compare these concepts with the development of philosophical categories, above all such as those of interaction and interconnection characteristic of the complex relationships between objects in all areas of the material world. Here there are vast openings for creative investigation. In recent years, philosophical treatises on models have acquired major significance. (It should be borne in mind that there are no grounds whatever for counterposing representation by model to the theory of reflection.)

Philosophers, then, cannot analyze and formulate philosophical categories today as they did in the nineteenth and the early twentieth centuries. Hence the duality of the responsibility resting on philosophers and natural scientists. The former are called upon to take full account of the movement of contemporary knowledge. The latter should not counterpose the categories of one or another specialized science to philosophical categories, but see their interconnection. It would be dangerous, indeed, if we were to divorce the application of the categories of natural science from the application of those of philosophy. Philosophy would be cut off from science, and doomed to scholasticism, ceasing to play an active role in the development of knowledge; on the other hand, the categories of the natural sciences would have only technical significance. The danger of infiltration by reactionary ideology, i.e. the substitution of a scientific world-outlook by categories of a purely formal order, would be increased. Furthermore, natural science would be generally deprived of the methodological instruments of scientific cognition. Each science has, of course, its own theoretical generalizations; there are also sciences which serve as generalizing agencies for an entire group of branches of natural science, but not seeing their interaction with general philosophical categories would mean losing a priceless advantage.

The growth of the role of methodology is due to two objective circumstances.

First, the growth of knowledge presupposes not only more profound theoretical views of the object but also the accumulation of information about the process of cognition itself. The "science of science" is acquiring a growing importance thereby. In tackling these problems it would be ill-advised, to say the least, not to draw

on the vast experience in elaborating methodology contained in the philosophy of materialism and in the rational elements of idealistic systems of thought. The very accumulation of knowledge and the new trends towards its formalization, mathematization, etc., necessitate an examination of the logic of science from the philosophical standpoint.

Second, the growing role of methodology is associated also with the breakdown (dating from the nineteenth century) of the speculative approach typical of the old natural philosophy. In former times, philosophers influenced natural science primarily through natural philosophy. This was historically justified, inevitable, and up to a point fruitful. Since the ancient world had no experimental data to substantiate its theories, it crystallized them through the agency of natural philosophy; in this way, philosophers filled in gaps in natural science, sometimes poorly, and, at times, quite successfully. The nineteenth century witnessed the demise of natural philosophy, for by then natural science had acquired a strong base of its own and was not in need of its help.

We do not speak of the end of natural philosophy in the sense that nature ceased to be the object of philosophical examination. Only positivists, not adherents of materialist dialectics, can pose the question in this way. The general laws of being, including the general laws governing the development of nature, always had been (and remain) the subject of materialist dialectics. We consider the existence of the dialectics of nature, the philosophy of natural science, or, as we nowadays put it, the philosophical problems of natural science, unquestionable. But we reject natural philosophy in the specific sense of a method for resolving scientific

problems through substituting specialized research by philosophical speculation.

The natural philosophical approach to methodology is inevitably associated with the imposition of one or another concept on natural science. In certain circumstances, this develops into running things by handing down orders. There was a time when we ourselves experienced the evils of methodological guidance of natural science by decree. In our day, the natural philosophical approach is an expression of incompetence in both natural science and philosophy. Incompetent intervention on the part of some philosophers in natural science was one of the causes of unpleasant and even pernicious consequences in the mutual relationships of the two. We remember only too well what happened with the theories of relativity, cybernetics, genetics, and in other areas. We condemn such intervention and together with it the natural philosophical approach, which is incompatible with really fruitful interaction between dialectical materialism and natural science.

Philosophy influences natural science primarily through its world-outlook and scientific methodology. True, we still have some philosophers who regard methodology with suspicion, holding that the very concept is a bourgeois invention, a Machian contrivance, if not something worse. Dialectical materialism as the universal methodology of natural science makes it possible to generalize correctly and interpret its new findings.

It is common knowledge that the growth of scientific knowledge is accompanied by its differentiation. Not only new trends but also new branches of science are constantly emerging. In our time when the mass of

scientific information is rapidly increasing, such specialization of science and scientists is inevitable and justified. For one thing, it helps to heighten the productivity of research. But at the same time, it would be a mistake not to see the negative and even dangerous aspects of excessive specialization. In conformity with the dialectical law of contradiction, growing differentiation in knowledge gives rise to a need for a synthesis of sciences, in order to counteract their fragmentation. Clearly today, the issue is one of a broader synthesis, taking in not only natural but also social sciences. The introduction of precise methods in the social sciences is of particular importance for the socialist countries, which are building up their economies on a scientific footing.

The tendency towards the approximation and in a sense the coalescence of natural and social sciences is especially significant on the philosophical plane. The older philosophy at different stages and in different forms acquiesced in or even propounded the separation of the two. Hegel saw the principle of development operating in society but not in nature. Feuerbach combined materialism in interpreting nature with idealism in understanding society. This separation was most glaringly formulated by the Neo-Kantians for whom the science of nature was one of laws and the science of society merely called upon to describe unique, isolated phenomena. Dialectical materialism brok down this philosophical barrier, placing social science on a scientific footing.

From the philosophical standpoint, it is important to elaborate the concept of law, law-governed regularity, in the spheres of both natural and social science. For as we know, bourgeois scientists tend to oppose the latter to the former by directly or indirectly denying

that there are any laws governing the development of society. Some Western historians, abstracting themselves from the regularities underlying historical events, see the facts of the past in a completely individualized light and hold that no generalization is possible. Others--and this trend is more pronounced among bourgeois historians--have a predilection for generalizing one or another aspect without regard for the concrete historical content of phenomena. Such approaches are, of course, a far cry from genuine science. Take the cyclical concepts which have gained currency. Advocates of these concepts (followers of Spengler and Toynbee) stress only the analogous aspects of phenomena encountered in completely different epochs and ignore the specific aspects. The similarities are explained by the fact that society develops in a spiral combining forward movement with cyclical elements. The supporters of the cycle theory, concentrating on the element of recurrence and denying the existence of the specific, repudiate the doctrine of socio-economic formations, of social progress. They indirectly deny the existence of laws of social development in the true sense of the word.

Since the cyclical concepts are advanced as an "effective counterweight to Marxism", Marxist researchers naturally attach much importance to refuting their proponents, especially in view of the pessimistic, apocalyptic note struck by many of them. However in criticizing these concepts, it should be borne in mind that they are sharply assailed also by the extreme Right among Western historians who deny that there are any regularities in the historical process, and hold that it baffles cognition.

The utter inadequacy of speculative methods became,

as we previously mentioned, patent by the middle of the nineteenth century and the attempts made by some philosopers to cling to them in tackling problems of natural science completely discredited natural philosophy. This, in turn, caused many researchers to question the value of philosophical thinking in general. The result, as we know, was the rise of positivism. Positivism rejected philosophy, primarily its world-outlook. The fact that the positivists applied themselves to many problems of formal logic, including the problems of experiment, the subject, and the classification of sciences, mathematical logic, and the analysis of the language of science, attracted large numbers of natural scientists. Some positivists (e.g. Mach) were atheists. Yet their criticism of materialism not only made their atheism vague and inconsistent but objectively played into the hands of theology. Others (J. S. Mill, Herbert Spencer, Ludwig Wittgenstein, and others) more or less openly upheld religion, criticized atheism, and believed that problems of world-outlook were inaccessible to the human mind and belonged to the sphere of the mystic. In other words, the positivists counselled the natural scientists to confine their investigations only to the facts, only to experience (interpreted, incidentally, from subjective idealist positions), excluding the problems of causality from the domain of natural science and philosophy.

The human mind has always felt a need for a synthesis of knowledge which would reflect the objective material unity of the world. It can be said that it is from this need that philosophy as such was born. Without generalization there can be no science. Every scientific law is a generalized reflection of phenomena. Each branch of knowledge has produced its own generalizations;

at a certain stage a great role is played by formal logic and mathematics. By elaborating its own concepts and categories, formal logic helped to generalize the findings of research. As for mathematics, it has long served as an instrument for formal description and generalization of truths established by science. But at the same time, there is always a need for broader conclusions, hence the development of philosophical generalizations. Here, materialist philosophy was a synthesizing factor; and classical idealism also contributed much to the evolution of philosophical categories, and thereby helped scientific generalization.

It would be a mistake not to see the enormous role of science's logical apparatus, mathematical methods, cybernetics, and modelling in the development of science. The philosopher who fails to see this or who denies the importance of these instruments of generalization will fall behind the times and can only harm both philosophy and natural science.

At the same time, it should be stressed that, precisely because of the signal development of logical and mathematical means of scientific generalization, the methodology too must be developed; i.e. the philosophical problems of natural science should be elaborated and Marxist philosophy enriched. The point is that mathematics, cybernetics, and formal logic themselves need to be interlinked. Mathematics has divided into a number of departments each of which, strictly speaking, is a separate science. Logic, e.g., has branched out into many-valued logic, in which the law of excluded middle is not observed.

Above all, it should be borne in mind that mathematical, logical, and cybernetic generalizations cannot resolve problems such as those of subject and object,

man and nature, nature and society, theory and practice, as well as a number of general methodological problems treated by philosophy, i.e. by dialectical and historical materialism. Unless these general philosophical problems are resolved, the logical and mathematical apparatus will have little more than technical significance.

INSTITUTE OF MARXISM-LENINISM
MOSCOW

AFTERWORD FROM ASIA

Debiprasad Chattopadhyaya

"World Revolution: Its Bearing on Philosophy"

The word "revolution", when used in the world context, allows little scope for ambiguity about the word and hence no major risk of being bogged down in semantic subtleties. Today at any rate, world revolution means only one thing, and that is transition on an international scale to the classless society, just as in ancient times it meant the transition to class society itself. All other revolutions in human history are after all local events in which humanity as a whole is not drawn in, though this certainly does not mean that such local events are necessarily without impact on the international event we are talking about. But that is not our present point. Our point is rather that revolution in the sense in which humanity as a whole is involved can alone be considered world revolution, and humanity as a whole is awaiting it only in the sense of the transition to world communism. I am aware that in my country there is some fuss about world revolution in some other sense. Thus, there is talk of the spiritualization of mankind or of the miraculous transformation of the essence of Man. But I am also aware that only a handful of people can afford the credulity to indulge in such cantankerous nonsense, and that those who can afford it do not really count.

Thus the idea conveyed by world revolution is really quite simple. But this is far from saying that

world revolution itself is a simple event. Being the most sophisticated experience awaiting humanity, it can be understood only by understanding its numerous facets. Hence, it is no wonder that, over the last hundred and fifty years and more, there have been so many controversies over various questions related to world revolution. It would have been a simpler matter, if only the spokesmen of vested interests raised these controversies in order to distract people from the path of revolution. But the fact is that the revolutionaries themselves are often confronted with alternative understandings of the strategy and tactics of overthrowing these vested interests. Many a question that had been thus raised in connection with world revolution is, of course, already solved by actual history, though in the meantime history itself has raised new questions or added new angles to the older ones. Such questions are being thrashed out in the context of the momentous events taking place before us, and it is no use trying to reopen these questions in this brief communication.

Instead of that, I shall try to discuss world revolution in one of its aspects, about which the revolutionaries at any rate are likely to agree. It is the bearing of world revolution on philosophical activity. This is important because world revolution alone can liberate the philosopher from the overpowering influence of an illusion to which he remains exposed throughout the career of class society. There is something inherent in the class structure of society that tends to give a wrong twist to the thought process of the philosophers, and the philosophers can free themselves from this influence only by overthrowing the class structure of society. World revolution, in other words, is important and philosophically so, because without it philosophy

cannot become a reality.

Such an assertion will be distasteful to philosophers outside the socialist world, who like to consider themselves as fully free while they philosophize: the only compulsion they are prepared to admit is the compulsion of their own conscience and clear thinking. But the fact is that within class society this professed freedom is a self-deception. I am not talking of the direct and crude methods exercised by vested interests to encourage thought only in certain forms and discourage it in others, for even within class society the more conscientious thinker can surely turn these down with contempt, and even prove himself to be a martyr. It is a much deeper factor that tends to influence his thought. Among the classical philosophers, Kant was perhaps the first to realize this, though only vaguely and in his own way: human reason has this peculiar fate, that it is burdened by questions which it cannot answer, but which nevertheless lure human reason to fabricate sheer, transcendental illusions by way of answering them. Thus, on the one hand, metaphysics is a kind of compulsion, while, on the other, it is destined to succumb to mere illusions. The profundity of this realization can hardly be exaggerated; but Kant himself was nowhere near the real root of this mystery, because of his tendency to understand philosophical matters exclusively in philosophical terms. It was left for Marx to outgrow this tendency and to make the most momentous discovery of the relevance of world revolution to philosophical emancipation. Already in his earlier writings, he insists "philosophy can only be realized by the abolition of the proletariat. . . ."[1] By the abolition of the proletariat the young Marx is surely driving at the idea of moving forward to the classless society. But what is he driving at by speaking

of philosophy being made a reality? A clue to this question is found in The German Ideology, which contains the first full statement of Marxism. Though well-known, the passage needs to be quoted again:

> Divison of labour only becomes truly such from the moment when a division of material and mental labour appears. From this moment onwards consciousness can really flatter itself that it is something other than consciousness of existing practice, that it really represents something without representing something real; from now on consciousness is in a position to emancipate itself from the world and to proceed to the formation of 'pure' theory, theology, philosophy, ethics, etc.[2]

This consciousness, which can flatter itself that it is other than the consciousness of existing practice, is described by Engels as false consciousness, and it is this that creates what Marx calls the metaphysical mystification of reality. Pure reason, fully cut off from concrete sensuous activity or practice, thus becomes the seat of transcendental illusions--a phenomenon that Kant was so desperately trying to understand, though prevented from fully understanding because of his lack of sociological grounding. For Marx, on the contrary, the whole thing is no longer a real mystery. There is no disembodied philosopher, and, since, after all, a philosopher is a human being, he has got to depend for his nourishment on the material conditions of his life. So far, it is plain common sense. The genius of Marx leads him to discover further, that the nourishment for the products of the philosopher's brain, too, ultimately comes from the same material conditions, and, moreover, what is decisive about these material conditions

are the forces of production, which, in turn, determines the relations of production. It is in this sense that the philosopher is not fully a free agent. His thought is ultimately conditioned by the forces of production and the relations of production of his time and place. But this also means that the philosopher can acquire a relative freedom in so far as he can clearly recognize the necessity operating behind his brain-production, i.e. in so far as he can see clearly how the material conditions in which he lives tend to condition his world outlook.

World revolution in its legitimate sense took place in the past when there was the transition from primitive society to class society, and it is going to take place in the future when there will be the transition from class society to classless society. We therefore have to consider these great movements in history in order to see the bearing of world revolution on philosophy. In primitive (pre-class) society, the collective labor of the entire community was an essential precondition for its survival. Hence, there was no question in it of a separation between material labor and mental labor. In other words, there was no question in primitive society of any section of men turning away from the responsibility of manual labor, in order to devote itself exclusively to theoretical pursuits. With the transition to class society, however, there emerges the leisured class, which because it maintains itself on the surplus produced by the toiling class, can afford to allow some of its members to choose the career of purely theoretical pursuits. Thus is created the condition for philosophizing, for specializing in theoretical activity. This is surely a stupendous advance. At the same time, it is not an advance without its own inner contradiction. The same factors that create theoretical specialization also create the danger

theorizing without reference to the facts of the world, the latter being accessible to concrete sensuous activity, or practice, or manual labor, which in the class society becomes a mark of degradation, of something slavish. No doubt there was an emancipation of consciousness; but this consciousness runs the risk of becoming false consciousness, inasmuch as within class society, pure reason, free from its obligations to practice, ascribes to itself a sense of omnipotence. Thought, in other words, wants to dictate terms to reality, to assume the role of the creator of reality. It is this that some of the earlier philosophers wanted to justify in the ontological argument: the real must necessarily answer to the demands of pure idea. Other philosophers not subscribing to the ontological argument in so many words remained, nevertheless, exposed to the same basic tendency of evolving their world view from their brains, instead of from the world itself. Thus there is something in class society itself that creates the tendency to a metaphysical mystification of reality. The philosopher can emancipate himself from this tendency only by overthrowing the class structure of society, or by moving forward to the classless society in which the unity of theory and practice is restored, where theoretical specialization is placed under strict obligation to the facts of the world. Only then can philosophy become a reality: "The philosophers have only interpreted the world, in various ways; the point, however, is to change it."[3]

I may end this discussion with a few lines from the Manifesto of the Communist Party, in which the philosophical bearing of world revolution is brilliantly summed up:--

> Does it require deep intuition to comprehend

that man's ideas, views and conceptions, in one word, man's consciousness, changes with every change in the conditions of his material existence, in his social relations and in his social life?

. . . .

. . . . The history of all past society has consisted in the development of class antagonisms, antagonisms that assumed different forms at different epochs.

But whatever form they may have taken, one fact is common to all past ages, viz., the exploitation of one part of society by the other. No wonder, then, that the social consciousness of past ages, despite all the multiplicity and variety it displays, moves within certain common forms, or general ideas, which cannot completely vanish except with the total disappearance of class antagonisms.

The Communist revolution is the most radical rupture with traditional property relations; no wonder that its development involves the most radical rupture with traditional ideas.[4]

CALCUTTA
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